DELTA 10 F ZOOM

03.LDF003.T
03.LDF003.TWS

User's Manual Rel 1.1 **GB**

D.T.S. Illuminazione srl - ITALY
http://www.dts-lighting.it

DTS
The Lighting Company

CE IP20

Made in Italy

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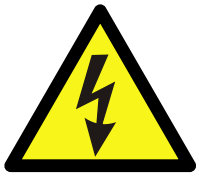
1- SYMBOLS

Graphic symbols used on this manual

THIS SYMBOL INDICATES A HOT SURFACE



THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

THIS SYMBOL INDICATES GENERAL RISK

THIS SYMBOL MEANS "DO NOT PLACE THE UNIT ON INFLAMMABLE SURFACES"

THIS SYMBOL INDICATES THE MINIMUM DISTANCE TO BE KEPT BETWEEN THE DEVICE AND THE LIT OBJECT

2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation , use and maintenance.
The device is not for domestic use and must be installed by a qualified electrician or experienced person.
Always disconnect the device from the mains before replacing the lamp.
The lamp must be replaced if it has been damaged or deformed by prolonged use or overheating.
The device must always be equipped with an efficient ground connection.

3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 36 months from the date of purchase against manufacturing material defects.

4- TECHNICAL FEATURES

DELTA 10 F ZOOM RGBW is a new LED colour changer featuring a motorized zoom 13,5° - 40°, ideal for rental applications that demand intense and nearly continuous usage.
DELTA 10 F ZOOM RGBW is the brightest LED colour changer in its category: 6.200 Lux at 5 m (13,5°). In fact its light source is composed of 240 LEDs (60 x Red, 60 x Green, 60 x Blue, 60 x White) with 19.500 total lumens.
The LEDs even distribution pattern featuring the same quantity of red, green, blue and white LEDs guarantees high mixing quality for RGBW colours and a uniform projection on surfaces, no matter what colour is used. DELTA 10 F ZOOM RGBW can generate 16 million colours; colour temperature can be varied over a linear range from 2800°K to 6500°K.
DELTA 10 F ZOOM RGBW offers an IP20 protection rating.
DELTA 10 F ZOOM RGBW has a full-range AC 90-260 V, 50-60 Hz power supply, and therefore ensures reliable operation even in the case of voltage drops. DELTA 10 F ZOOM RGBW can be used without external consoles, in chains of colour changers including up to 32 units.
All functions of the internal DELTA 10 F ZOOM RGBW menu can be programmed and memorized in a sequence of events (including different luminosity settings, generation of 16 million different colours, special effects, etc.), which can be played back in a predetermined sequence over an entire week.
The DELTA 10 F ZOOM RGBW can operate in vertical, horizontal or inverted positions, and can be positioned on the floor or ground, or fitted to trusses; it is complete with a practical accessory.
DELTA 10 F ZOOM is also available as DELTA 10 F CT ZOOM (240 LEDs: 180 x White, 60 x Amber).
On demand, the unit is also available in RGBA version.

DELTA 10 F ZOOM RGBW

Cod. 03.LDF003.T
• Electronic Power Supply 90-260VAC 50/60 Hz • Motorized Zoom • Grey glitter finish
Cod. 03.LDF003.TWS
• Electronic Power Supply 90-260VAC 50/60 Hz • Motorized Zoom • Wireless DMX ready (external Antenna needed) • Grey glitter finish

LED technology
240 LEDs (60 x Red, 60 x Green, 60 x Blue, 60 x White)
LEDs average lifespan: 100.000 hours
Total luminous flux 19.500 Lumens
6.200 Lux at 5 m (13,5°)
RGBW colour generation (16 million colours)
Colour temperature variable on a linear range (2.800°K÷6.500°K); no infrared / no ultraviolet emissions
Optical units
Motorized Zoom 13,5°-40°
User interface
4 -eight digit LED display with 4 buttons;
Independent operation
Fully programmable via built-in user interface
Master or Slave capability (chains of up to 32 interconnected units)
Control
Remotely controlled by cable or wireless (on request); USITT DMX 512 serial digital protocol (reception / transmission)
DMX channels: 12
Protection
IP20 protection level

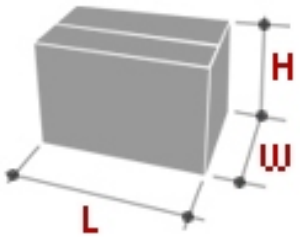
4- TECHNICAL FEATURES

Power supply / consumption
Full range AC 90-260V, 50-60Hz
Power consumption:
* 90 V – 5,3 A – 480 W * 120 V – 4 A – 480 W
* 230 V – 2,1 A – 480 W * 260 V – 1,85 A – 480 W
Thermal
Operating ambient temperature: -10° / +40°
Weight
18Kg
Finishes
Black, white
Certifications and safety
CE certification; LED class: Class 2 LED product

Dimensions

Packaging Dimensions (LxWxH)
630 x 500 x 660 mm
Weight: 20 Kg

Unit Dimensions (LxWxH)
454x205x443mm
Weight: 18 Kg



5- ACCESSORIES

As standard
•1 x Omega Clamp with "Fast Lock" connection 1/4 turn for Delta 10 F (cod. 02K00523)
• User's manual

Optional (on request)
• Wireless DMX receiver card (cod. 03.LA.012)
• External 2dBi IP65 Omnidirectional Antenna (cod. 0508A040)
• "C" Clamp G60 black (max. load 50Kg) (cod. 0521A004)
• "C" Clamp G60 chrome (max. load. 50Kg) (cod. 0521A004.20)
• Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (cod. 0521A010)

6- IMPORTANT SAFETY INFORMATION

6.1 Fire prevention:

-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1 m.
-Minimum distance from the closest illuminable surface: 0,5 m.

-Replace any blown or damaged fuses only with those of identical value. Refer to the wiring diagram if there is any doubt.
-Connect the projector to mains power via a thermal magnetic circuit breaker.

6.2 Prevention of electric shock:

-High voltage is present inside the unit. Isolate the projector from the mains supply prior to performing any function which involves touching the inside of the unit.
-The level of technology inherent in the DELTA 10 F ZOOM requires the assistance of specialised personnel for all servicing.Please refer to an authorised D.T.S. service centre.
-A good earth connection is essential for proper functioning of the projector.
Never connect the unit without proper earth connection.
-The fixture should be located in places with a good air ventilation.

6.3 Protection against direct light radiation:

-Never turn the unit on if any of the lenses or the glass lenses protection is damaged.
-Never look directly the leds when they are on.

6.4 Safety:

-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
-Always use a second safety chain to sustain the weight of the unit in case of the failure of the main fixing point.
-The external surface of the unit, at various points, may exceed 80°C.
Never handle the unit until it's on.
-Never install the fixture in an enclosed area lacking sufficient air flow.
-The ambient temperature should not exceed 40°C.

6.5 Level of protection against the penetration of solid and liquid matter:

-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid matter is IP20.

.7- VOLTAGE AND FREQUENCY:

DELTA 10 F ZOOM can operate at 90-260VAC, 50 or 60 Hz.

8- INSTALLATION:

DELTA 10 F ZOOM may be either floor or ceiling mounted.
For floor mounting installations, the unit is supplied with four rubber mounting feet on the base.
For ceiling mounted installations, we reccommend the use of appropriate clamps to fix the unit to the mounting surface.
The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hung it.
Four 1/4 turn Fast Locks connections placed in the base of the units allow to hang the DELTA 10 R by using the Omega Clamp provided in the box (addittional clamps needed for truss installation).
.

8.1 Safety cable:

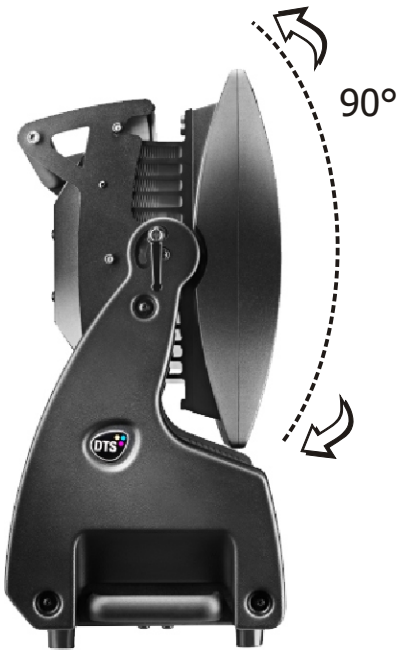
We recommend the use of a safety cable or chain connected to the DELTA 10 F ZOOM and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail. Make sure that the iron cable or chain can bear the weight of the entire unit.
You may attach the safety chain to the holes located on the base of the fixture.

8.2- Protection against liquids

The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid. The proper unit functioning would be compromised should this occur.

8.3- Movement

The projector has a maximum movement of 90° for Tilt. DO NOT place any obstructions in the path of the projector's movement.



WARNING
Do not place any object in the path of the projector's movement

8.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place. The minimum recommended distance from flammable material is 1 MT.

Minimum distance from the object being illuminated is 0,5 MT.

8.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans located on the head of the fixture. These should, under no circumstances, be blocked or obstructed whilst the projector is in operation.
Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

8.6- Ambient temperature

The projector should never be installed in places that lack a constant air flow. The ambient temperature should NOT exceed 40°C.

9- MAINS CONNECTION:

DELTA 10 F ZOOM can operate at 90-260V, 50 or 60Hz.
Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available.
For connection purposes, ensure that your plug can handle at least 400W power consuption.
Strict adherence to regulatory norms is strongly Recommended.

03.LDF003.T

FUSE: 6A T

MAINS
Electronic power supply
90-260VAC 50 / 60Hz

DMX IN / OUT

03.LDF003.TWS

FUSE: 6A T

MAINS
Electronic power supply
90-260VAC 50 / 60Hz

DMX IN / OUT

Panel connector for
external WIRELESS DMX Antenna

Metal support for
external WIRELESS DMX Antenna

9.1 Protection:

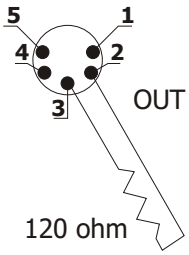
The use of a thermal magnetic circuit breaker is recommended for each DELTA 10 F ZOOM.
A good earth connection is essential for the correct operation of the projector.

10- DMX SIGNAL CONNECTION

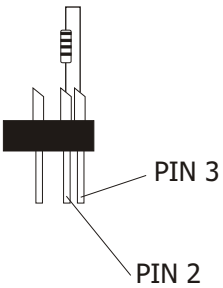
The unit operates using the digital DMX 512 (1990) signal. Connection between the mixer and the projector or between projectors must be carried out using a two pair screened ø 0.5 mm cable and a XLR 5 or 3 pins connector. Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassy
The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.
This way, all the projectors are cascade connected.
NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

- DMX signal not present
- DMX address not valid
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor
Between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



10.1 DMX Addresses:

DELTA 10 F ZOOM can be used in 3 different DMX modes: 12 DMX control channels, 8 DMX control channels or CUSTOM mode channels.
Here below is described the DMX channels addressing for the controller when DELTA 10 F ZOOM is set to 12 DMX control channels :

Projector 1	A001	
Projector 2	A013	If you want to select the next projector, just add "12"
Projector 3	A025	
…..	A….	
projector 6	A061	

10.2 Seleicting the DMX address:

1) Press the UP-DOWN key until you reach the required DMX address. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new DMX address.

TIPS: if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

11 FIRMWARE UPDATING

Warning:
This procedure require a base knolewge of computer applications and Windows Hyperterminal program. **Please refer to an authorised D.T.S. service centre.**

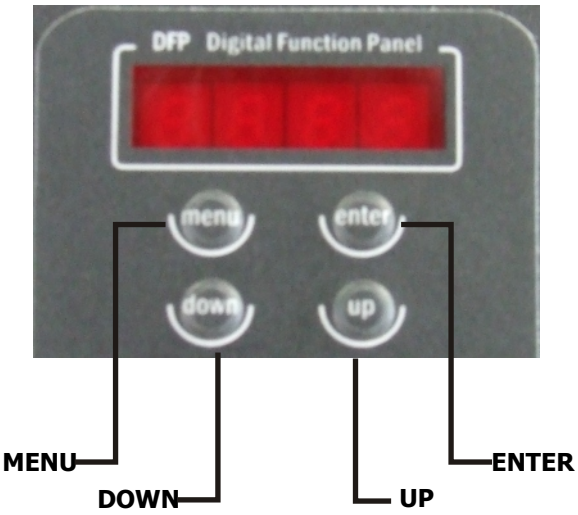
To update the software version of the DELTA 10 F ZOOM you need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Driver for the D.T.S. RED BOX interface .
D.T.S. Firmware upgrade utility program.
(The driver and the installation procedure are available in our web site www.dts-lighting.it)

Updating the software version.
Please follow the procedure below to perform the update:

1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using D.T.S. Firmware upgrade utility program.

It will be possible to download the software from the reserved area of D.T.S. web site:
www.dts-lighting.it.

12- DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

The DELTA 10 F ZOOM display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 signal used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

Software version 2.17

A001 — MENU ☞ Up-Down ☞ **d ISP** — ENTER ☞ Up-Down ☞ **POS1** — ENTER ☞ Up-Down ☞ **AA** Floor position — ENTER ☞ / **UU** Suspension position — ENTER ☞

REVERSE DISPLAY
Reverses display's reading depending on the mounting position
(On the ground or suspended).

Up-Down ☞ **StbY** — ENTER ☞ Up-Down ☞ **oFF** Display OFF — ENTER ☞ / **on** Display always ON — ENTER ☞

DISPLAY STAND BY
To turn off the display (after 5 seconds)
Or leave it always on.

MENU ☞ Up-Down ☞ **nOdE** — ENTER ☞ Up-Down ☞ **12CH** 12 CHANNELS — ENTER ☞ Default DMX Mode = 12 CH

DMX MODE
To select DMX mode : 12 ch (default) - 8 ch - AUX - CUSTOM and MACRO settings

Up-Down ☞ **8CH** 8 CHANNELS — ENTER ☞

Up-Down ☞ **AUX** AUX MODE — ENTER ☞ Not implemented on FOS 100 SOLO

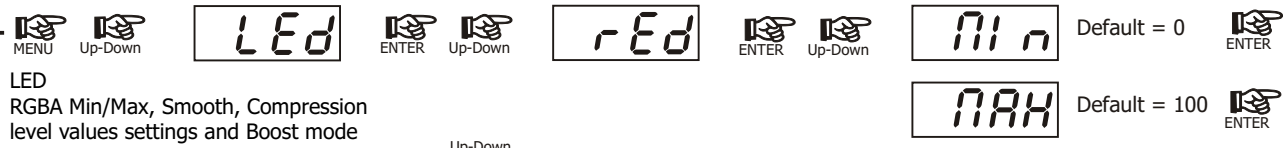
AUX mode let you activate an external ON -OFF control on IR connector.
(Not implemented on DELTA 10 F ZOOM)

Up-Down ☞ **CUSt** — ENTER ☞ Up-Down ☞ **SEL** — ENTER ☞ Custom mode enabled / **ShoU** — ENTER ☞ Show Custom settings / **SEt** — ENTER ☞ Setting the parameters on Custom Mode

CUSTOM DMX mode let you set the parameters for Shutter, Dimmer, Red, Green, Blue, Amber, White, Ctc, Macro and Function to the desired DMX channels.

MACRO
MACRO Function, enable channel mapping macro rainbow effects
STD = Standard (default)
EXT = Extended

nACr — ENTER ☞ Up-Down ☞ **Std** — ENTER ☞ Standard mode enabled (Default): no rainbow effects on CH9 MACRO / **EHt** — ENTER ☞ Extended mode enabled: Rainbow effects enabled on CH9 MACRO



LED
RGBA Min/Max, Smooth, Compression level values settings and Boost mode

RGBA MINIMUM VALUES
This menu allow to select the minimum levels for Red, Green, Blue and Amber

RGBA MAXIMUM VALUES
This menu allow to select the maximum levels for Red, Green, Blue and Amber

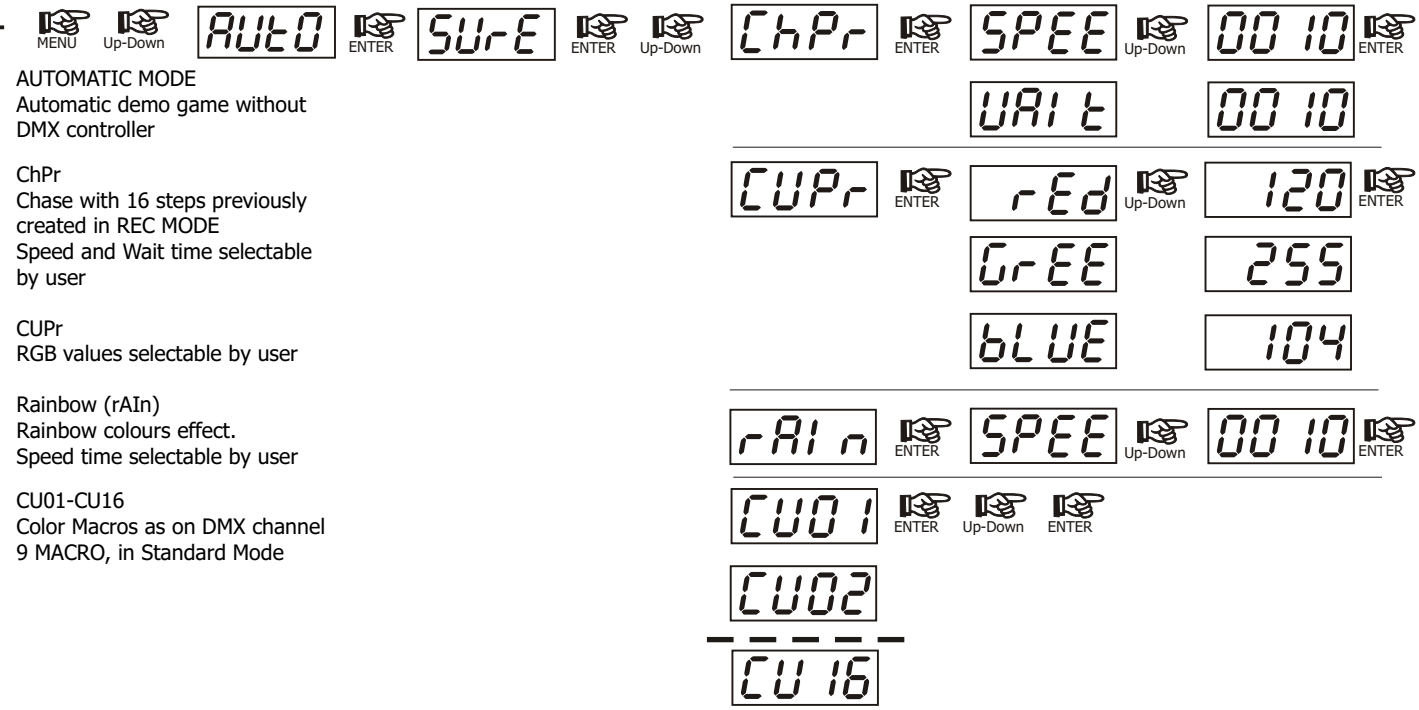
These settings have priority on Master Dimmer (DMX channel 2)

SMOOTH VALUE
This menu allow to select the value of the delay (in millisecons) for RGBA and Dimmer channels reaction to DMX or Program variation.
Off = 25 ms delay (Fast response)
20 = 250 ms delay (Slow response)

COMPRESSION
This menu allow to select between Linear current output or Quadratic current output for LEDs
Default = Linear

SYNC
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 500 mA



AUTOMATIC MODE
Automatic demo game without DMX controller

ChPr
Chase with 16 steps previously created in REC MODE
Speed and Wait time selectable by user

CUPr
RGB values selectable by user

Rainbow (rAIn)
Rainbow colours effect.
Speed time selectable by user

CU01-CU16
Color Macros as on DMX channel 9 MACRO, in Standard Mode

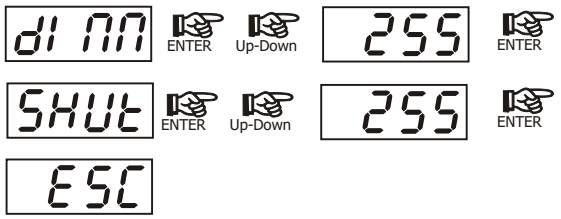
AUTOMATIC MODE
Automatic demo game without DMX controller

WHITE MACROS
16 macros for White color from 2800 to 6500 ° K

DIMMER
Dimmer level selectable by user as on DMX channel 2 (Dimmer)
Dimmer level is active for all the programs and macros

SHUTTER
Shutter level selectable by user as on DMX channel 1 (Shutter)
Shutter level is active only for CU01/CU16 and Wh01/Wh16 macros

ESC
Esc from Automatic Mode Menu



REC MODE
In DMX Recorder Mode,it is possible to create and store the scenes of the ChPr by using an external DMX controller.
The unit must be set to 12 channels MODE

DMX Recorder Mode
For the programming of ChPr by using a DMX controller, besides the 12 channels necessary to control the unit a further 3 DMX channels are needed.
So that in RECORDER mode (via DMX) the unit will need 15 channels to be correctly programmed.
The three new DMX channels are:

DMX channel 13 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 14 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 15 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded).It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed

MENU Up-Down SLAU ENTER SUrE ENTER Up-Down SLU ENTER

ESC

SLAVE MODE
Slave mode for ChPr program.
All slave units will be synchronised with master unit, running their own Chpr program.

MENU Up-Down Ir ENTER Up-Down On ENTER

OFF

INFRARED MODE
Infrared remote control.
By activating Ir MODE, it will be possible to navigate trought the unit functions by using the D.T.S. infrared remote control.
D.T.S. Code :0514L008
(Not implemented on DELTA 10 F ZOOM)

NOTE:
External infrared remote sensor needed.
D.T.S. Code :03.LA.016

MENU Up-Down UdMX ENTER Up-Down SEL ENTER Up-Down On ENTER WIRELESS DMX SYSTEM ENABLED

OFF WIRELESS DMX SYSTEM DISABLED

WIRELESS DMX
Wieless DMX enabled / disabled.
By activating WDMX MODE, it will be possible to control DELTA 10 F ZOOM via D.T.S. ANTENNA Wireless DMX Transmitter (cod. 03.E1271).
WIRELESS DMX system on DELTA 10 F ZOOM is available on request.

NOTE:
Wireless DMX receiver card needed (cod. 03.LA.012).
External IP65 2dbi omnidirectional Antenna needed (cod. 0508A040)

UnLH ENTER UNLINK = LOG OUT

Logging on Delta 10 F (WIRELESS DMX must be enabled on Delta 10 F unit) UdMX ENTER SEL ENTER Up-Down On ENTER

To log on the Delta 10 F in the WIRELESS system simply press and quickly release the function button on the transmitter .
The transmitter will start flashing rapidly red/green scanning for new free receivers / Delta 10 F units. When a Delta 10 F logs on to the transmitter the LINK green light on transmitter starts to flash rapidly.
After approximately 10 seconds the transmitter will jump back to normal mode and continue transmitting data. The Delta 10 F now try to synchronize to the transmitter.
When synchronized to the transmitter, 2 different modes are possible:
1. Antenna transmitter has detected and transmits a DMX signal, in this mode a solid green light is seen on the transmitter and solid display is seen on Delta 10 F.
2. No DMX signal connected, the Antenna transmitter will flash red/green; display blinking on Delta 10 F.

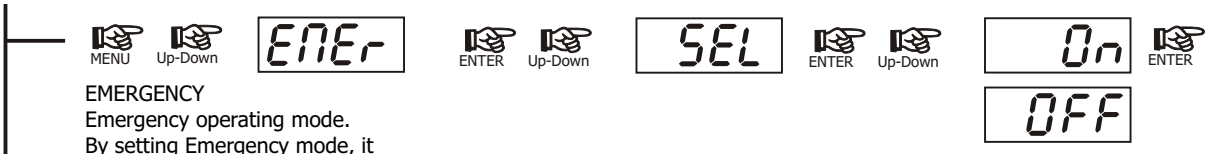
To log Delta 10 F off from a transmitter simply select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When Delta 10 F is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out a Delta 10 F
Select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When Delta 10 F is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out all Delta 10 F linked to a transmitter
Press and hold the function button of the transmitter for about 3 seconds. When the display is blinking on Delta 10 F, it mean that the units are logged out.

Transmitter, Status LED
Flashing red/green, no dmx connected.
Solid green, dmx signal detected and transmitted.
Fast flashing red/green, log in mode (every free Delta 10 F unit, not logged in to any other transmitter, will be logged on)

Delta 10 F, Status
Display blinking, not logged on to a transmitter (free).
Solid display, logged on to a transmitter and receiving dmx data.

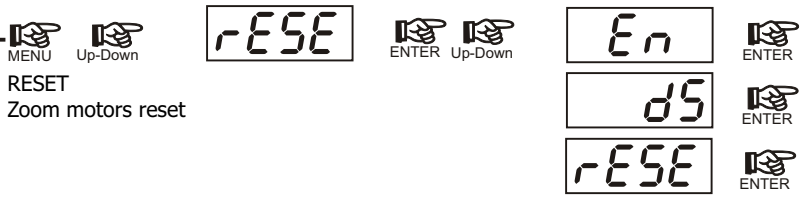


EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then ran if DMX signal is missing or not available.
Usefull for Emergency EXIT ilumination on public areas.

Default = OFF

Default = White 1

Default = 255



RESET
Zoom motors reset

RESET ENABLED VIA DMX

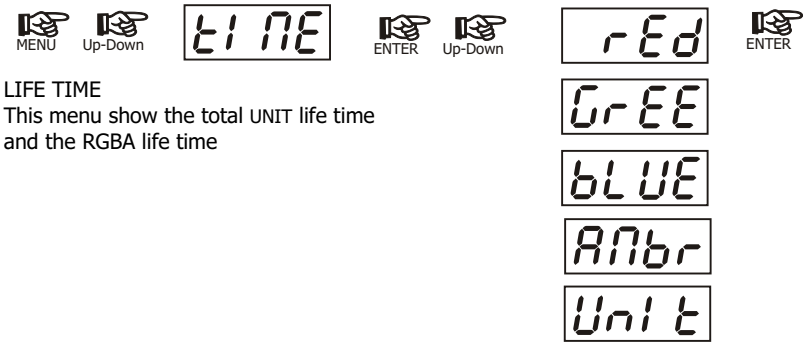
RESET DISABLED VIA DMX

ZOOM MOTORS RESET

DEFAULT
To restore default settings

TEMPERATURE
Unit temperature

FAN
Fan max speed regulation
Off (fan always off) - 12 - 14 - 16 - 18 - 20 - 22 - 24 Volt



LIFE TIME
This menu show the total UNIT life time and the RGBA life time

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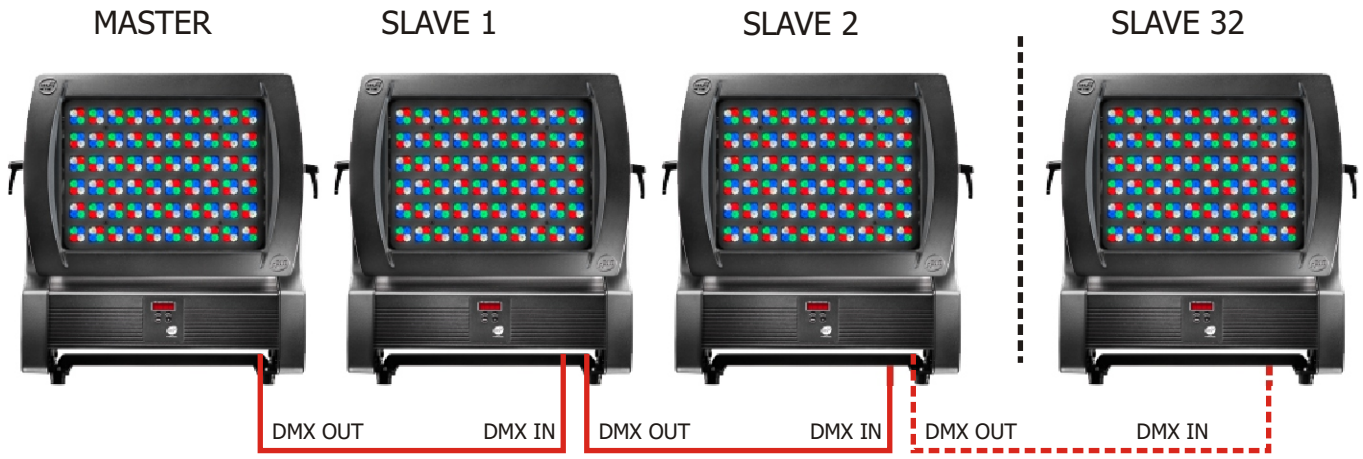
TEST MODE
RGBA colours test with rainbow

UPGRADE
This menu let you upgrade the unit firmware

SOFTWARE
Software version

13-AUTOMATIC OPERATION (AUTO)

DELTA 10 F ZOOM can work in automatic mode without a DMX controller. First of all connect the projectors with a DMX cable (picture below). A maximum quantity of 32 slave units can be connected to the same Master unit.



To activate Auto mode on the first unit, use the menu to run through the different modes until AUTO appears on the display, and press enter.
Now it is possible to choose between the different pre-programmed games (CUPr-RAIn-CU01/CU16-Wh01/Wh16) or ChPr which is user programmable through REC mode. To confirm game activation press ENTER on the selected GAME.

13.1 CUPr-RAIn-CU01/CU16-Wh01/Wh16

The first unit that will work as a Master should be placed in Automatic mode (AUTO), the other units have to be placed in 12 channels DMX mode (MODE 12CH) and the DMX address should be set at A001.
For RaIn (rainbow) game it is possible to select the speed for the colour changhing (SPEE).
DIMMER function (in AUTOMATIC MODE) is active for all the programs.
SHUTTER function (in AUTOMATIC MODE) is active only for CU01/CU16 and Wh01/Wh16 macros.

13.2 ChPr MASTER/SLAVE

The first unit that will function as a Master must be set to Automatic mode (AUTO), the other units must be set to Slave mode (SLAV), selectable through the menu. In this way all the Slave units will be synchronised with the master and running their own ChPr game.
On the master unit it is possible to vary the Speed time (SPEE) for the colour changhing and the Wait time (UAIt) between the steps.
Speed time and Wait time on the Master, have priority on the slave units.
NB: It is possible to run GA.Pr on the other units even though these do not have GA.Pr programmed. You can do this by setting the units to 10 channels DMX mode (MODE 10CH) and selecting DMX address A001.

13.3 Rec mode

It is possible to program your own game on DELTA 10 F ZOOM that will then run it in AUTO mode (ChPr). Each unit can have its own programmed game.
In REC mode the unit must be set to 12 channels mode.
To program the ChPr by using a DMX controller, you need 3 more channels in addition to the 12 channels necessary to control the unit.
So that in RECORDER mode (via DMX) the unit will need 15 DMX channels to be correctly programmed.
The three new DMX channels are:

DMX channel 13 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 14 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 15 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded).It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed

14- PERIODIC CLEANING

Front lenses Glass:
The dust can reduce the luminous output substantially. Regularly clean the front lenses glass using a soft cotton cloth, dampened with a specialist glasses cleaning solution.

15- PERIODIC CONTROLS

Mechanical parts:
Periodically check all mechanical parts and the gaskets, replacing them if necessary.

Electrical components:
Check all electrical components for correct earthing and proper attachment of all connectors, refastening if necessary.

Fuse replacement:
Locate the fuse, which protect the electronics, in the base of the DELTA 10 F ZOOM.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.
Attention: Disconnect mains power prior to removing the projector housing.

16-DMX PROTOCOL

12 CHANNELS MODE (Default)

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 AMBER
7 WHITE (Pre-programmed whites at different colour temperatures)
8 CTC
9 COLOURS MACRO
10 FUNCTIONS
11 ZOOM
12 RESET

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGBA active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (Red-Green-Blue at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2800°K-6500°K)**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGB levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2800°K-6500°K)**

DMX CHANNEL	8	Parameter: **CTC (Color temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 7 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**43 color temp. Correction Macros: 0 = 2800°K / 128 = 5000°K / 255 = 6500°K**

IF CHANNEL 7 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	**Smooth RGB linear Hue correction**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: MENU Up-Down [nodE] ENTER Up-Down [nACr] ENTER Up-Down [Std] ENTER **PLEASE CHECK PAGE 12**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: MENU Up-Down MODE ENTER Up-Down MACr ENTER Up-Down EXT ENTER **PLEASE CHECK PAGE 12**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	10	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 7 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 7 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

DMX CHANNEL	11	Parameter:**ZOOM**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255			**Linear ZOOM from Narrow to Wide (13,5°-40°)**		

DMX CHANNEL	12	Parameter: **RESET**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-15					**No Effect**
16-255			**Zoom Motors Reset (activation after 3 sec.)**		

8 CHANNELS MODE

1 **SHUTTER**
2 **DIMMER**
3 **RED**
4 **GREEN**
5 **BLUE**
6 **AMBER**
7 **ZOOM**
8 **RESET**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3400ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (43s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (43s-100ms)**
180-204	**192**				**Random Strobe (Master and RGBA active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter:**ZOOM**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255			**Linear ZOOM from Narrow to Wide (13,5°-40°)**		

DMX CHANNEL	8	Parameter: **RESET**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-15					**No Effect**
16-255			**Zoom Motors Reset (activation after 3 sec.)**		

NOTE

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